



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/664,335      | 09/17/2003  | Derek Savidge        | M02B153-1           | 4124             |

7590 05/10/2005

Ira Lee Zebrak  
The BOC Group, Inc.  
Legal Services - Intellectual Property  
100 Mountain Ave.  
Murray Hill, NJ 07974

EXAMINER

KRISHNAMURTHY, RAMESH

ART UNIT PAPER NUMBER

3753

DATE MAILED: 05/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

|                              |                      |                |  |
|------------------------------|----------------------|----------------|--|
| <b>Office Action Summary</b> | Application No.      | Applicant(s)   |  |
|                              | 10/664,335           | SAVIDGE ET AL. |  |
|                              | Examiner             | Art Unit       |  |
|                              | Ramesh Krishnamurthy | 3753           |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 - 11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>09/03</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

This office action is responsive to communications filed 03/23/2005.

**Claims 1 – 11 are pending.**

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 3 and 5 – 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Dunn et al. (US 5,370,507).

Dunn et al. discloses (See Fig. 1, for example) a chemical pump (here taken to include all known forms of chemical pumps including a vacuum pump) comprising a non-return valve (26) in a flow path for the fluids exhausted from the pump, the valve comprising a valve seat insert in the form of an O-ring (34) and a ball (29) both made of fluoro-elastomeric material, and is positioned relative to said flow path such that when, in use, said ball is seated on the valve seat insert, the flow the fluids in said flow path is prevented and when there is predetermined fluid pressure in said flow path upstream of the ball, the ball is moved from the valve seat insert by fluid pressure, so that the fluid can flow in the flow path downstream of the ball.

It is noted that the device disclosed by Dunn et al. necessarily performs the method recited in claim 11 in its usual and normal operation.

3. Claims 1 – 3, 5, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Neward (US 5,478,216).

Neward discloses a vacuum pump comprising a non-return valve (60) in a flow path for the fluids exhausted from the pump, the valve comprising a valve seat insert in the form of an O-ring (45) and a ball (44), and positioned relative to said flow path such that when, in use, said ball is seated on the valve seat insert, the flow the fluids in said flow path is prevented and when there is predetermined fluid pressure in said flow path upstream of the ball, the ball is moved from the valve seat insert by fluid pressure, so that the fluid can flow in the flow path downstream of the ball.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn et al. (US 5,370,507) as applied to claims 1 – 3 and 5 - 11 above, and further in view of Ray (US 2002/0047025 A1).

The patent to Dunn et al. discloses the claimed invention with the exception of explicitly disclosing the ball to be coated with a non-stick material.

The disclosure of Ray teaches that it is known in the art to apply a coating of non-stick material (paragraph [0022], lines 5 – 12) for the purpose of obtaining a good reliable seal.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in Dunn et al. a ball coated with non-stick material for the purpose of obtaining a good reliable seal, as recognized by Ray.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Neward (US 5,478,216) as applied to claims 1 – 3, 5, 7 and 8 above, and further in view of Ray (US 2002/0047025 A1).

The patent to Neward discloses the claimed invention with the exception of explicitly disclosing the ball to be coated with a non-stick material.

The disclosure of Ray teaches that it is known in the art to apply a coating of non-stick material (paragraph [0022], lines 5 – 12) for the purpose of obtaining a good reliable seal.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in Neward a ball coated with non-stick material for the purpose of obtaining a good reliable seal, as recognized by Ray.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Neward (US 5,478,216) as applied to claims 1 – 3, 5, 7 and 8 above, and further in view of Dunn et al. (US 5,370,507).

The patent to Neward discloses the claimed invention with the exception of explicitly disclosing the insert i.e. O-ring to be made from either a fluoroelastomer or a perfluoroelastomer.

Dunn et al. discloses, as set forth above, a check valve arrangement wherein all component part in fluid contact with the fluid flowing through the check valve are made of a fluoroelastomer for the purpose of obtaining good chemical resistance under usual working conditions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in Neward the insert i.e. the O-ring to made of a fluoroelastomer for the purpose of obtaining good chemical resistance under usual working conditions, as recognized by Dunn et al..

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramesh Krishnamurthy whose telephone number is (571) 272 – 4914. The examiner can normally be reached on Monday - Friday from 10:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene L. Mancene, can be reached on (571) 272 – 4930. The fax phone number for the organization where this application or proceeding is assigned is (703) 872 – 9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 - 0861.

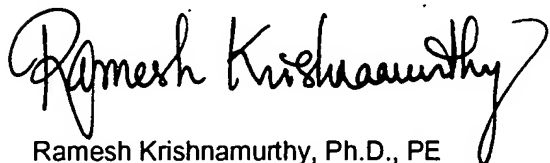
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Application/Control Number: 10/664,335

Page 6

Art Unit: 3753

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, reading "Ramesh Krishnamurthy". The signature is written in a cursive style with a large, sweeping initial 'R' and a long, trailing flourish at the end.

Ramesh Krishnamurthy, Ph.D., PE  
Primary Examiner  
Art Unit 3753